

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Streamlining Deployment of Small Cell)	WT Docket No. 16-421
Infrastructure by Improving Wireless)	
Facilities Siting Policies)	
)	
Mobilitie, LLC Petition for Declaratory)	
Ruling)	
)	

**COMMENTS OF THE
CONSUMER TECHNOLOGY ASSOCIATION**

The Consumer Technology Association (“CTA”)¹ respectfully submits these comments in response to the above-captioned *Public Notice*, which explores how to streamline processes for deploying the infrastructure that will support the wireless environment of the future.² These issues are critical to the success of the future internet, including the Internet of Things (“IoT”). To sustain a robust future internet, providers must be able to deploy wireless infrastructure readily to replace and supplement wired links to homes and other end points with wireless links.

Cost-efficient, appropriately-sized, and rapidly deployed infrastructure – both small cells and macrocells – helps ensure that the future internet makes the best use of available spectrum.

¹ The Consumer Technology Association (“CTA”)TM is the trade association representing the \$292 billion U.S. consumer technology industry, which supports more than 15 million U.S. jobs. More than 2,200 companies – 80 percent are small businesses and startups; others are among the world’s best known brands – enjoy the benefits of CTA membership including policy advocacy, market research, technical education, industry promotion, standards development and the fostering of business and strategic relationships. CTA also owns and produces CES[®] – the world’s gathering place for all who thrive on the business of consumer technologies. Profits from CES are reinvested into CTA’s industry services.

² *Comment Sought on Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Siting Policies; Mobilitie, LLC Petition for Declaratory Ruling*, Public Notice, 31 FCC Rcd 13360 (WTB 2016) (“*Public Notice*”).

Just as the future internet will depend on a mixture of unlicensed and licensed spectrum across multiple bands, so too will it depend on the availability of rich and diverse infrastructure. CTA applauds the many positive steps that the Commission has taken to facilitate innovative use of previously underutilized spectrum for mobile broadband and other wireless services, and its effort to continue developing spectrum for commercial use.³

This *Public Notice* is a significant next step because rapid, streamlined infrastructure deployment is essential for innovative development of the future internet. Without sound infrastructure policies, making spectrum available for commercial use is a necessary, but not sufficient, ingredient for the ubiquitous connectivity that will fuel the future internet, including the many wireless sensors and connected devices of the IoT. Common-sense siting policies will protect consumers, governments, *and* innovation. The Commission should encourage states and localities to adopt smart and light-touch regulatory policies and procedures that will streamline and promote infrastructure siting – but should take more direct action if necessary.

³ See, generally, Comments of the Consumer Technology Association f/k/a Consumer Electronics Association, GN Docket No. 14-177 (Sept. 2, 2016) (urging the Commission to adopt its proposal to expand the Upper Microwave Flexible Use Service to several new bands above 24 GHz, with modifications) (“CTA Above 24 FNPRM Comments”); Comments of the Consumer Electronics Association, ET Docket No. 15-26 (Apr. 20, 2015) (supporting the expansion of vehicular radar in the 76-81 GHz band); Comments of the Consumer Electronics Association, ET Docket No. 12-354 (Feb. 20, 2013) (encouraging the Commission to explore the possibility of spectrum sharing in the 3.5 GHz band between Federal and non-Federal users); Comments of the Consumer Electronics Association, GN Docket No. 12-268 (Jan. 25, 2013) (discussing four key principles to ensure the success of Incentive Auction); Comments of the Consumer Electronics Association, ET Docket Nos. 04-186 and 02-380 (Jan. 31, 2007) (supporting the use of fixed low-powered devices on an unlicensed basis in TV “white spaces”). For clarity, we use the name “CTA,” even when previous comments were filed under the name CEA.

I. THE FUTURE INTERNET DEPENDS ON BUILDING, DEPLOYING, AND SUPPORTING WIRELESS INFRASTRUCTURE

The *Public Notice* correctly identifies the growing demand for wireless data.⁴ As CTA has explained, with consumers demanding higher speeds for more data-intensive applications and with the expansion of the IoT, this growth is projected to continue unabated for the foreseeable future.⁵ Over the past five years, mobile data traffic has grown an astounding 18-fold.⁶ Almost half a billion mobile devices and connections were added in 2016 alone.⁷ New IoT connections alone are projected to reach 638 million in 2021.⁸ That same year, 3.3 billion machine-to-machine mobile connections may power “GPS systems in cars, asset tracking systems in shipping and manufacturing sectors, or medical applications making patient records and health status more readily available” and more.⁹ Some estimates are even higher – perhaps 30 billion IoT-connected devices by 2025.¹⁰ The future internet and the IoT, in particular, will use a variety of short-range and long-range wireless technologies.¹¹

⁴ *Public Notice*, 31 FCC Rcd at 13362.

⁵ See, e.g., Consumer Technology Association, *Internet of Things: A Framework for the Next Administration* 6 (Nov. 2016) (“CTA IoT Paper”), <http://www.cta.tech/cta/media/policyImages/policyPDFs/CTA-Internet-of-Things-A-Framework-for-the-Next-Administration.pdf>.

⁶ *Cisco Virtual Networking Index: Global Mobile Data Traffic Forecast Update, 2016-2021 White Paper*, Feb. 9, 2017, <http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/mobile-white-paper-c11-520862.html> (“Cisco VNI”).

⁷ Cisco VNI (estimating that 429 million mobile devices and connections were added in 2016).

⁸ Arielle Sumits, *Top 5 Surprises from the 2017 Mobile VNI Study*, Cisco Blogs (Feb. 7, 2017), <http://blogs.cisco.com/sp/top-5-surprises-from-the-2017-mobile-vni-study>.

⁹ Cisco VNI.

¹⁰ Murray Slovick, *New Wireless Options for IoT*, i3 (Mar. 2, 2017) (“By 2025 30 billion IoT-connected devices will be deployed says Machina Research.”), <https://cta.tech/News/i3/Articles/2016/July-August/New-Wireless-Options-for-IoT.aspx>.

¹¹ See, e.g., FCC Technological Advisory Committee, Summary of Meeting at 120 (Sept. 23, 2014), <https://transition.fcc.gov/bureaus/oet/tac/tacdocs/meeting92314/TACMeetingSummary9-23-14.pdf> (reviewing IoT connectivity technologies).

To support this massive network of networks, infrastructure must remain innovative, accessible, secure, interoperable, and scalable. As the Department of Commerce recognizes, “infrastructure investment, innovation, and resiliency (such as across the information technology, communications, and energy sectors) will provide a foundation for the rapid growth of IoT services.”¹² The private and public sector must work together to push infrastructure deployment and development.

Vastly expanded and densified wireless infrastructure is critical for the future internet.¹³ For example, the wireless and consumer technology industries have turned their attention to the development of standards for Fifth Generation (“5G”) wireless services to meet consumer demand. The provision of 5G-level service will require use of additional high frequency bands (particularly in those places where traffic demands will be highest), in addition to the new, lower band mobile spectrum now starting to enter the pipeline.¹⁴ These higher bands, because of their suboptimal propagation characteristics, will require densified infrastructure deployment.¹⁵ Moreover, particularly in urban and indoors environments, the millions of low-power monitors,

¹² *The Benefits, Challenges, and Potential Roles for the Government in Fostering the Advancement of the Internet of Things*, Notice, Request for Public Comment, Docket No. 1603311306-6306-01, RIN 0660-XC024, 81 Fed. Reg. 19,956, 19,957 (Apr. 6, 2016).

¹³ See, e.g., *Public Notice*, 31 FCC Rcd at 13362 (noting that the Commission has recognized the need of small wireless facility deployment to meet growing mobile data demand).

¹⁴ See, e.g., Slovic, *supra* (describing several different types of wireless technologies operating over several different bands of spectrum that are being used with IoT applications).

¹⁵ See, e.g., CTA Above 24 FNPRM Comments at 5; Mobilitie, LLC Petition for Declaratory Ruling, *Promoting Broadband for All Americans by Prohibiting Excessive Charges for Access to Public Rights of Way* at 4 (filed Nov. 15, 2016) (observing that small cells and new spectrum bands will “require multiple sites”) (“Mobilitie Petition”).

sensors, and other devices that will comprise the IoT will depend on close-by wireless facilities to connect them to core networks and to the internet.¹⁶

II. RAPID, STREAMLINED INFRASTRUCTURE SITING WILL BEST ENABLE THE FUTURE INTERNET

As CTA has explained, one of the most significant challenges faced by the future internet is the current fragmented approach of federal government agencies toward development of the IoT, which has resulted in inconsistent and reactive regulatory regimes.¹⁷ The inconsistent regulatory approaches are not only damaging to innovation, but also confusing for consumers and smaller companies that cannot afford to navigate the nuances of each regime.¹⁸ These problematic federal issues, however, pale in comparison to the complexity of compliance with infrastructure deployment requirements across the 56 states and territories. In addition, siting infrastructure regulations differ municipality to municipality. The differences magnify the challenges at the federal level over a thousand-fold, as each municipality creates unique challenges that would-be innovators must navigate and negotiate.¹⁹

Government must allow consumers and the market to decide technology winners and losers, rather than dictating outcomes itself and risk inadvertently hampering innovative, consumer-friendly developments. Overly broad, complex, or prescriptive rules for infrastructure siting can not only inadvertently throttle innovation and keep beneficial new products from coming to market, but also inhibit innovations that would promote safety, among other benefits. State and local governments should thus minimize their requirements and restrictions on

¹⁶ See, e.g., Stephane Daeuble, *Small cells bring IoT in from the cold*, Nokia Blog (Feb. 7, 2017), <https://blog.networks.nokia.com/small-cells/2017/02/07/small-cells-bring-iot-cold>.

¹⁷ See CTA IoT Paper at 4, 11.

¹⁸ *Id.*

¹⁹ See generally *Public Notice*, 31 FCC Rcd 13363-67; *Mobilitie Petition*.

installing the new infrastructure that is so critical to the success of the future internet and bringing its benefits to the American public. To the extent that states and localities are unreasonably delaying and restricting the infrastructure deployment, the FCC should take action to cut regulatory red-tape.

III. CONCLUSION

CTA's members are working hard to help meet the ever-increasing consumer demand for high-speed wireless connectivity for the future internet of IoT and 5G services. Small cell infrastructure holds promise as a part of the solution to meeting that demand, and CTA looks forward to working with the FCC and localities to take advantage of the opportunities presented by all types of wireless infrastructure.

Respectfully submitted,

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